

Work Order ID 52367

Tuesday, September 22, 2009 3:13:09 PM



Page 1

Item ID: D3121-144

Accept



Setup Start



Revision ID: E

Stop



Item Name: Bracket Assembly

Start Date: 9/23/2009 Start Qty: 6.00



Cust Item ID:

Required Date: 10/9/2009 Req'd Qty: 6.00



Customer:

Reference:

Approvals: Process Plan: *PLM F*

Date: 09-9-22 Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center ID/Operation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3121 | Rev E |

100



BAND SAW

Bandsaw

Memo

0.00

*SL 09/10/04**6*

110



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

*SL 09/10/07 / JK 09/10/08**6*

120



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

*SL 09/10/07 / JK 09/10/08**6*

Quality Control

Work Order ID 52367

Page 2

Tuesday, September 22, 2009 3:13:09 PM

Item ID: D3121-144

Accept



Setup Start



Revision ID: E

Stop



Item Name: Bracket Assembly

Start Date: 9/23/2009 Start Qty: 6.00



Cust Item ID:

Required Date: 10/9/2009 Req'd Qty: 6.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



QC8- Inspect parts - second check

0.00

8/09/10/08

0.00

QC

Memo

6

Quality Control

140



Small Fab

0.00

8/09/10/19 6

Small Fab

Memo

0.00

Small Fab

Assemble D3121-143 as per Dwg D3121.

150



QC5- Inspect part completeness to step on W/O

0.00

0.00

8/09/10/19

QC

Quality Control

6 8

Work Order ID 52367

Page 3

Tuesday, September 22, 2009 3:13:09 PM

Item ID: D3121-144

Accept



Setup Start



Revision ID: E

Stop



Item Name: Bracket Assembly

Start Date: 9/23/2009 Start Qty: 6.00

Required Date: 10/9/2009 Req'd Qty: 6.00



Cust Item ID:



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: 235

0.00

9/10/19 6 50


Packaging

Packaging

Memo

0.00

170

QC21- Final Inspection - Work Order Release

0.00

09/10/19 TD


QC

Quality Control

Memo

0.00

MF 09-10-19

Picklist Print

Page 1

Tuesday, September 22, 2009 3:13:09 PM

Work Order ID: 52367



Parent Item: D3121-144RevE



Parent Item Name: Bracket Assembly

Start Date: 9/23/2009

Required Date: 10/9/2009

Comments:

Start Qty: 6.00

Required Qty: 6.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Remaining Qty To Pick | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|

D3121-241RevE

Manufactured

No

100

Each

34.0000

12.0000

Bearing Assembly



EB09/10/19

Warehouse

Location

Main Warehouse

ST

Loc Qty

Loc Code

B52717

2x

B52592

10x

D3121-21RevE

Manufactured

No

140

Each

57.0000

12.0000

Bolt



EB09/10/18

Warehouse

Location

Main Warehouse

ST

Loc Qty

Loc Code

B52518

M174B1.250X02.000

Purchased

No

140

f

28.5600

2.3242

17-4 SS Bar 1.250 x 2.00

Warehouse

Location

Main Warehouse

MAT

Loc Qty

Loc Code

28.56

109851

4.56

111787

24

23272

SL 09/10/04

| | | | |
|------------------------------|--|--------------|-----------|
| DART AEROSPACE LTD | | Work Order: | 52367 |
| Description: Bracket | | Part Number: | D3121-114 |
| Inspection Dwg: D3121 Rev: E | | Page 1 of 2 | |

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

| Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|---------------|------------------|--------|--------|----------------------|----------|
| 0.080 | +/-0.010 | .078 | ✓ | | | |
| 0.300 | +/-0.010 | .295 | ✓ | | | |
| R0.375 | +/-0.010 | .375 | ✓ | | | |
| 1.54 | +/-0.030 | 1.55 | ✓ | | | |
| 0.350 | +/-0.010 | .353 | ✓ | | | |
| R0.25 | +/-0.030 | .25 | ✓ | | | |
| Ø0.392 | +0.002/-0.000 | Ø .393 | ✓ | | | |
| Ø0.201 | +0.005/-0.000 | Ø .201 | ✓ | | | |
| 0.100 | +/-0.010 | .096 | ✓ | | | |
| 2.540 | +/-0.010 | 2.538 | ✓ | | | |
| 1.590 | +/-0.010 | 1.589 | ✓ | | | |
| 0.160 | +/-0.010 | .160 | ✓ | | | |
| 0.400 | +/-0.010 | .399 | ✓ | | | |
| 1.220 | +/-0.010 | 1.224 | ✓ | | | |
| 1.600 | +/-0.010 | 1.601 | ✓ | | | |
| 3.80 | +/-0.030 | 3.80 | ✓ | | | |
| 1.800 | +/-0.010 | 1.800 | ✓ | | | |
| R0.50 | +/-0.030 | Ø .50 | ✓ | | | |
| 0.130 | +/-0.010 | .128 | ✓ | | | |
| 3.41 | +/-0.030 | 3.42 | ✓ | | | |
| 3.65 | +/-0.030 | 3.64 | ✓ | | | |
| 2.24 | +/-0.030 | 2.21 | ✓ | | | |
| 45° | +/-0.1° | 45° | ✓ | | | |
| R0.25 | +/-0.030 | Ø .25 | ✓ | | | |
| 3.97 | +/-0.030 | 3.96 | ✓ | | | |
| R0.38 | +/-0.030 | Ø .38 | ✓ | | | |
| Ø0.392 | +0.002/-0.000 | Ø .393 | ✓ | | | |
| Ø0.201 | +0.005/-0.000 | Ø .201 | ✓ | | | |
| 0.268 | +/-0.010 | .270 | ✓ | | | |
| R0.260 | +/-0.010 | Ø .250 | ✓ | | | |
| 0.080 | +/-0.010 | .085 | ✓ | | | |
| 0.300 | +/-0.010 | .300 | ✓ | | | |
| 0.381 | +/-0.010 | .380 | ✓ | | | |
| 0.201 | +/-0.010 | .201 | ✓ | | | |

| | | |
|-----------------------|--------------|-------------|
| DART AEROSPACE LTD | Work Order: | 52367 |
| Description: Bracket | Part Number: | D3121-114 |
| Inspection Dwg: D3121 | Rev: E | Page 2 of 2 |

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

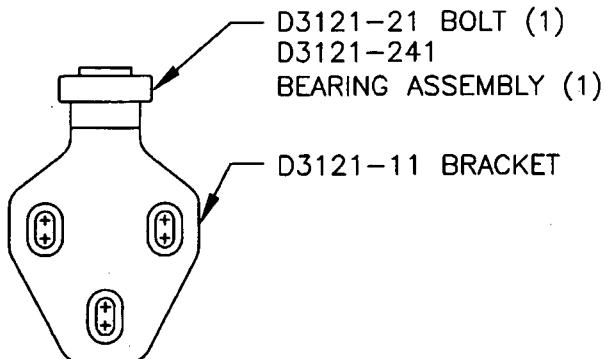
| | | | | | |
|--------------|-----------------|-------------|-----------------|---------------------|-----|
| Measured by: | <u>JT</u> | Audited by: | <u>JF</u> | Prototype Approval: | N/A |
| Date: | <u>09/01/08</u> | Date: | <u>09/10/08</u> | Date: | N/A |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---|------------|----------|
| A | 03.12.08 | New Issue P/O D3121-144 | KJ/RF | |
| B | 04.05.05 | Dimensions changed/re-arranged per Dwg revision | KJ/JLM | |
| C | 06.06.14 | Dwg Rev. updated | KJ/JLM | |
| D | 08.01.16 | Dimensions updated per Dwg Rev E | KJ/EC/DD, | |
| E | 08.05.20 | 0.032 dimension was 0.32 | KJ/DD | AA NN |

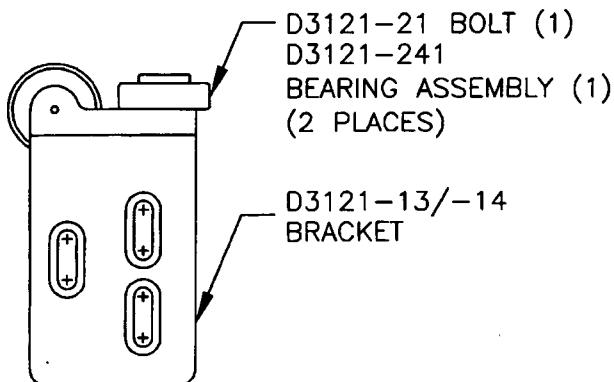
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 I. ED COPI
 MENDMENT
 NOTICE
 ORDER
 DART
 UNCO SUBIE W V
 NO. 52367

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| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. | REV. E |
| # | # | D3121 | SHEET 1 OF 10 |
| DATE | TITLE | | SCALE |
| 07.11.07 | BRACKET ASSEMBLY | | 1:2 |
| A | 02.04.15 | NEW ISSUE | |
| B | 03.01.16 | ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146 | |
| C | 04.02.17 | ADD CLEARANCE; USE -241 BEARING | |
| D | 06.05.17 | D3121-25 CAP WAS 1.024, NOW 1.000 | |
| E | 07.11.07 | ADD TOLERANCE TO 0.032 (DETAIL B) | |

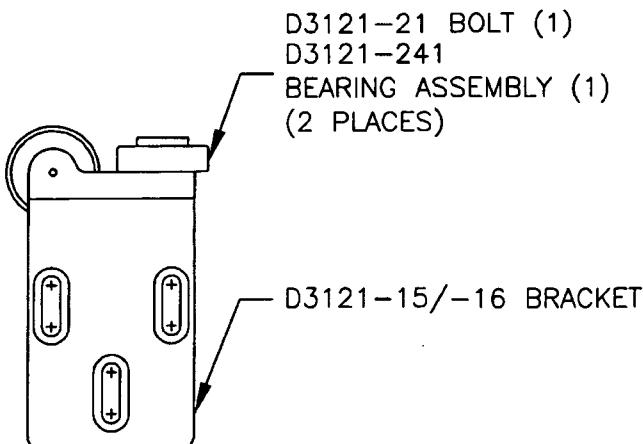
RELEASED
07.11.07



D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)



**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-37/-38)



**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-35/-36)

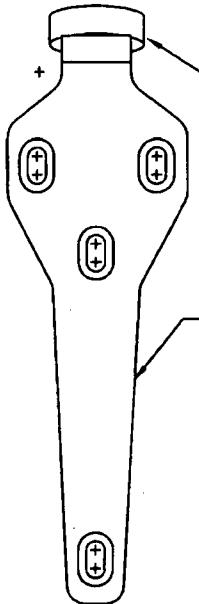
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| | | D3121 | SHEET 2 OF 10 |
| DATE | TITLE | SCALE | |
| 07.11.07 | BRACKET ASSEMBLY | 1:2 | |

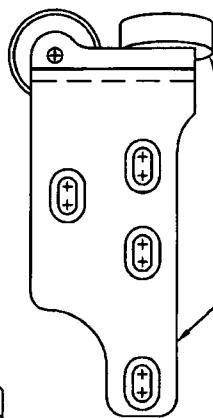


D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

RELEASED
07.11.07

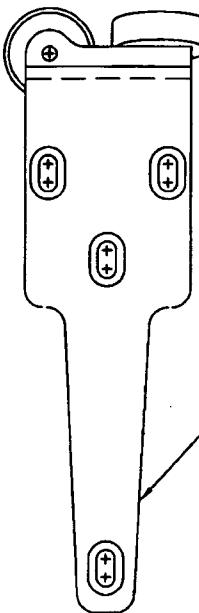
D3121-111 BRACKET



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-113/-114 BRACKET

D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-115/-116
BRACKET

D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

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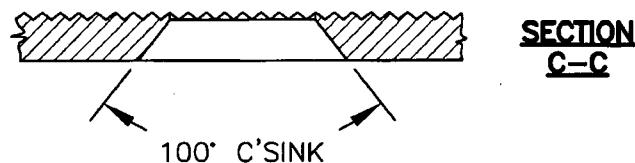
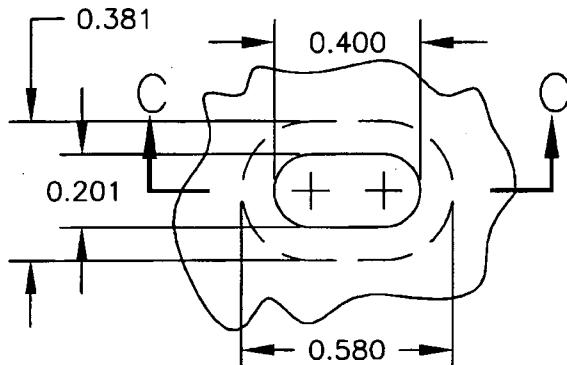
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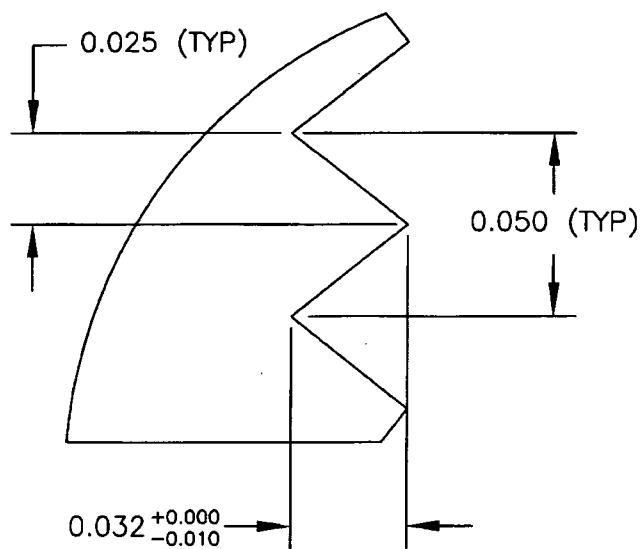
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| CHECKED | APPROVED | HAWKESBURY, ONTARIO, CANADA | REV. E |
| | | DRAWING NO. | SHEET 3 OF 10 |
| DATE | TITLE | SCALE | |
| 07.11.07 | BRACKET ASSEMBLY | 1:1 | |

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



RELEASED
07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



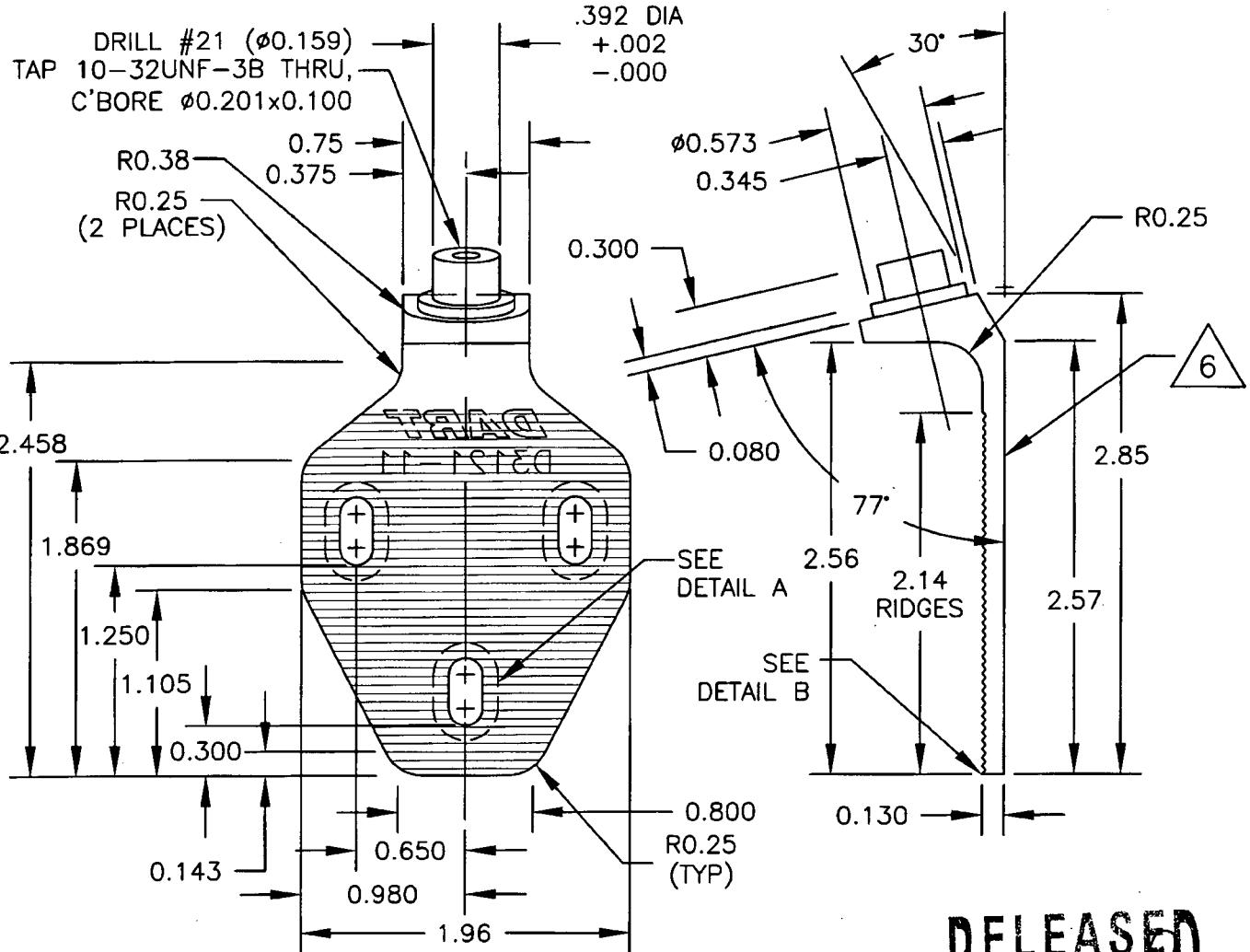
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| DESIGN  | DRAWN BY  | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED  | APPROVED  | DRAWING NO. D3121 | REV. E SHEET 4 OF 10 |
| DATE 07.11.07 | TITLE BRACKET ASSEMBLY | | SCALE 1:1 |



RELEASED
07.11.07 MP

D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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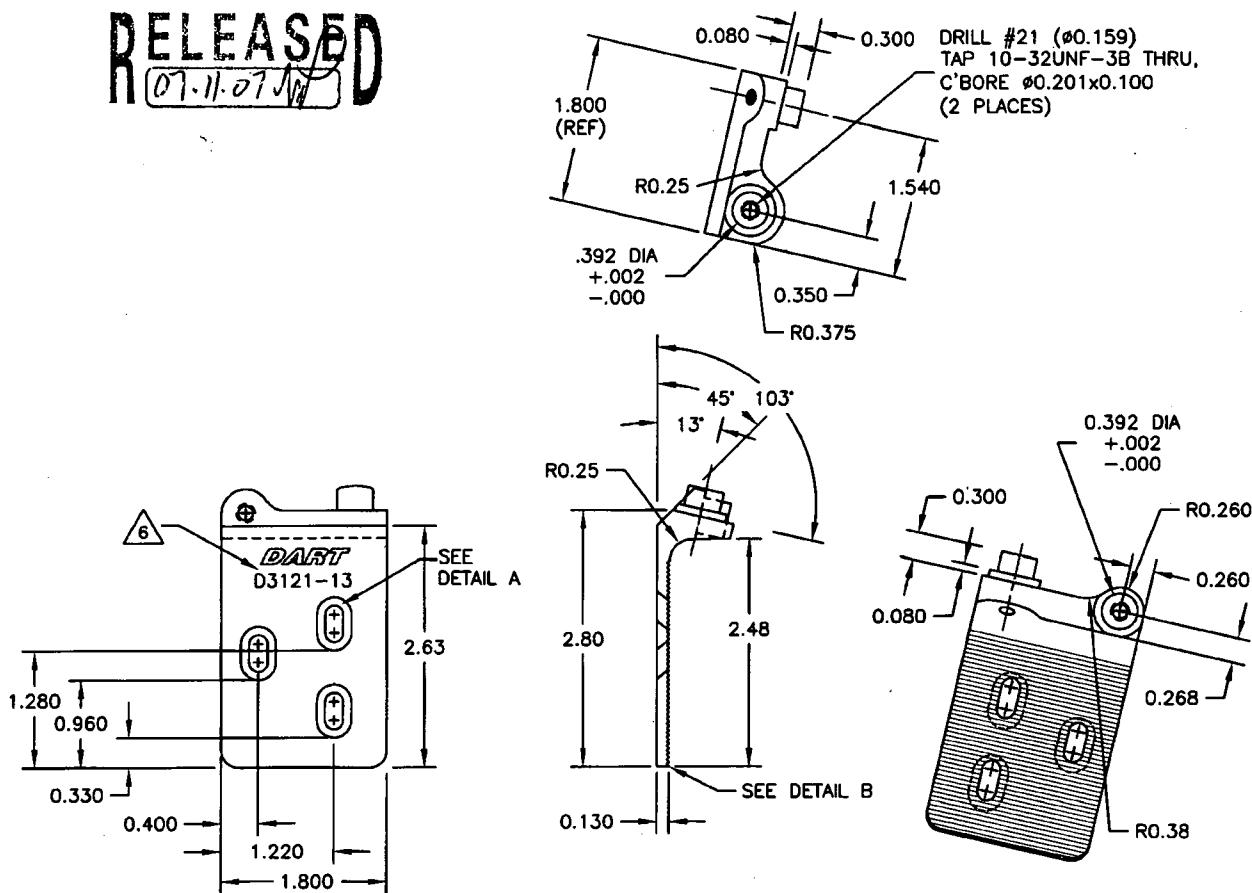
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| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. | REV. E |
| | | D3121 | SHEET 5 OF 10 |

DATE 07.11.07 TITLE BRACKET ASSEMBLY SCALE 1:2

RELEASED
(07.11.07)



D3121-13 BRACKET (SHOWN)

D3121-14 BRACKET (OPPOSITE)

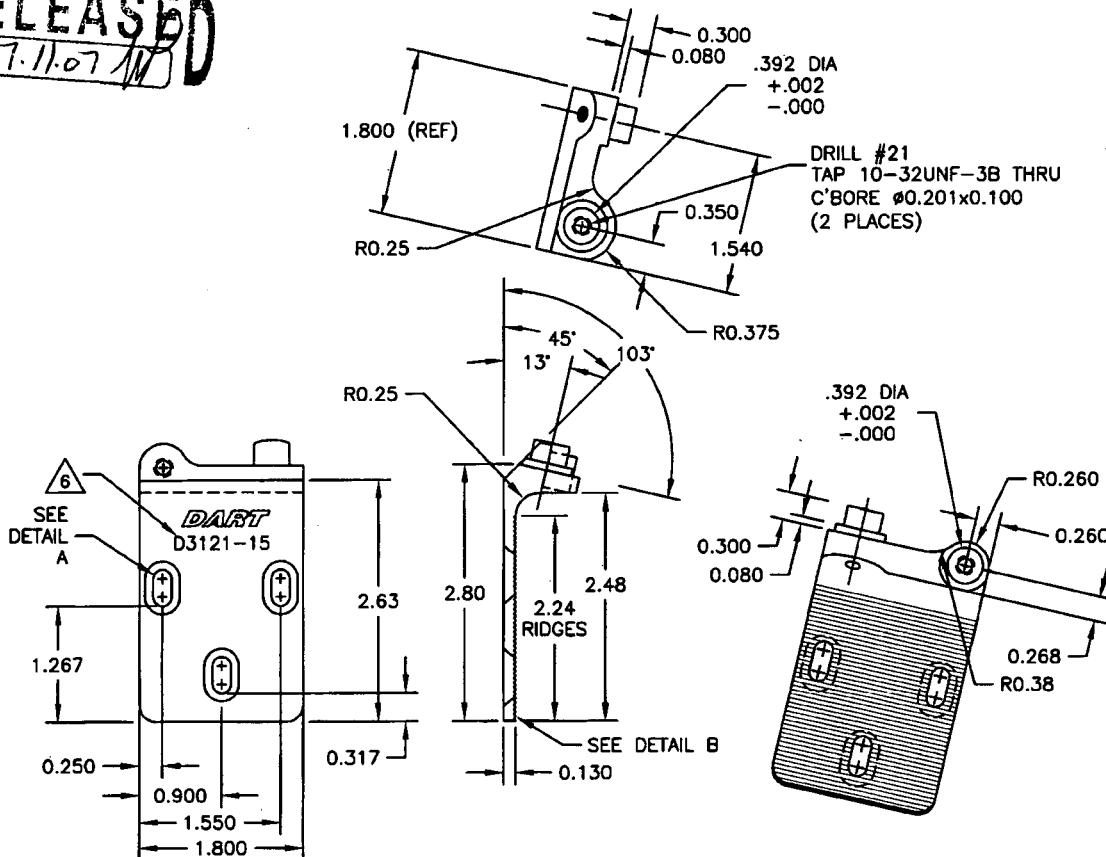
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

52367



| | | |
|---------|----------|--|
| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA |
| CHECKED | APPROVED | DRAWING NO. D3121 |
| DATE | 07.11.07 | REV. E SHEET 6 OF 10 SCALE 1:2 TITLE BRACKET ASSEMBLY |

RELEASED
07.11.07



D3121-15 BRACKET (SHOWN)

D3121-16 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

52367

PART

| | | | |
|--|---|--|-------------------------|
| DESIGN  | DRAWN BY  | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED  | APPROVED  | DRAWING NO. D3121 | REV. E SHEET 7 OF 10 |
| DATE 07.11.07 | TITLE BRACKET ASSEMBLY | | SCALE 1:2 |

RELEASED
07.11.07 / W

RELEASED
07.11.07/W

DRILL #21 (ϕ 0.159)
TAP 10-32 UNF-3B THRU
C'BORE ϕ 0.201x0.100

0.392 O.D.
+.002
-.000

R0.375
R0.25 (2 PLACES)

0.75
0.375

0.080

0.300
0.345

0.573 O.D.
R0.25

30°

77°

SEE DETAIL B

SEE DETAIL A

5.788

5.160

4.580

4.530

3.630

3.330

3.473

0.950

2.14 RIDGES

0.98

1.96

0.664

0.600

0.280

0.130

5.90

5.89

6.18

6.22

D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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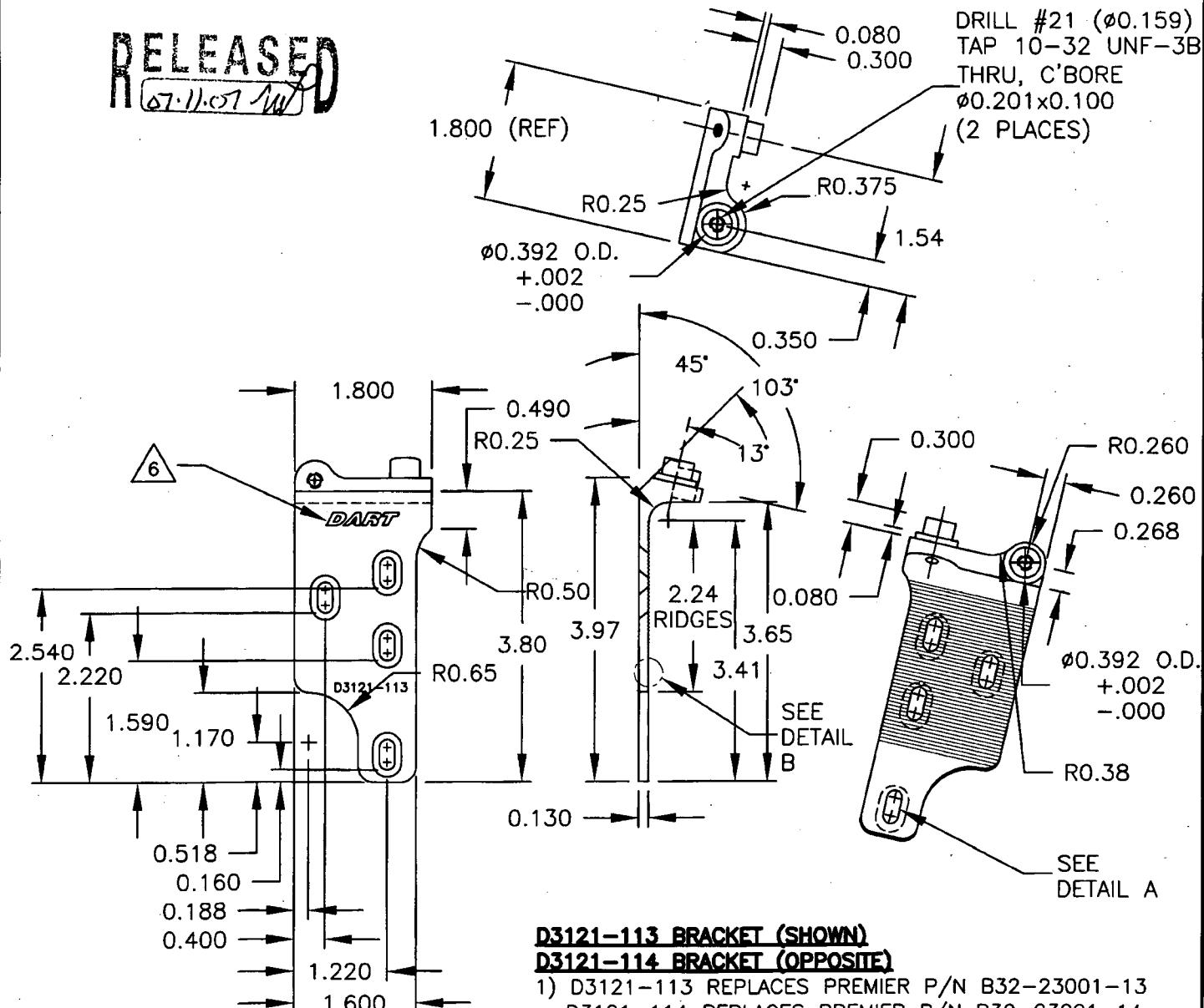
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DART

| | | | | |
|---------------------|---------------------------|---|--------------|---------------|
| DESIGN <i>4</i> | DRAWN BY <i>CE</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | | |
| CHECKED <i>4</i> | APPROVED <i>4</i> | DRAWING NO. D3121 | REV. E | SHEET 8 OF 10 |
| DATE 07.11.07 | TITLE BRACKET ASSEMBLY | | SCALE 1:2 | |

RELEASED
07.11.07 11:45



D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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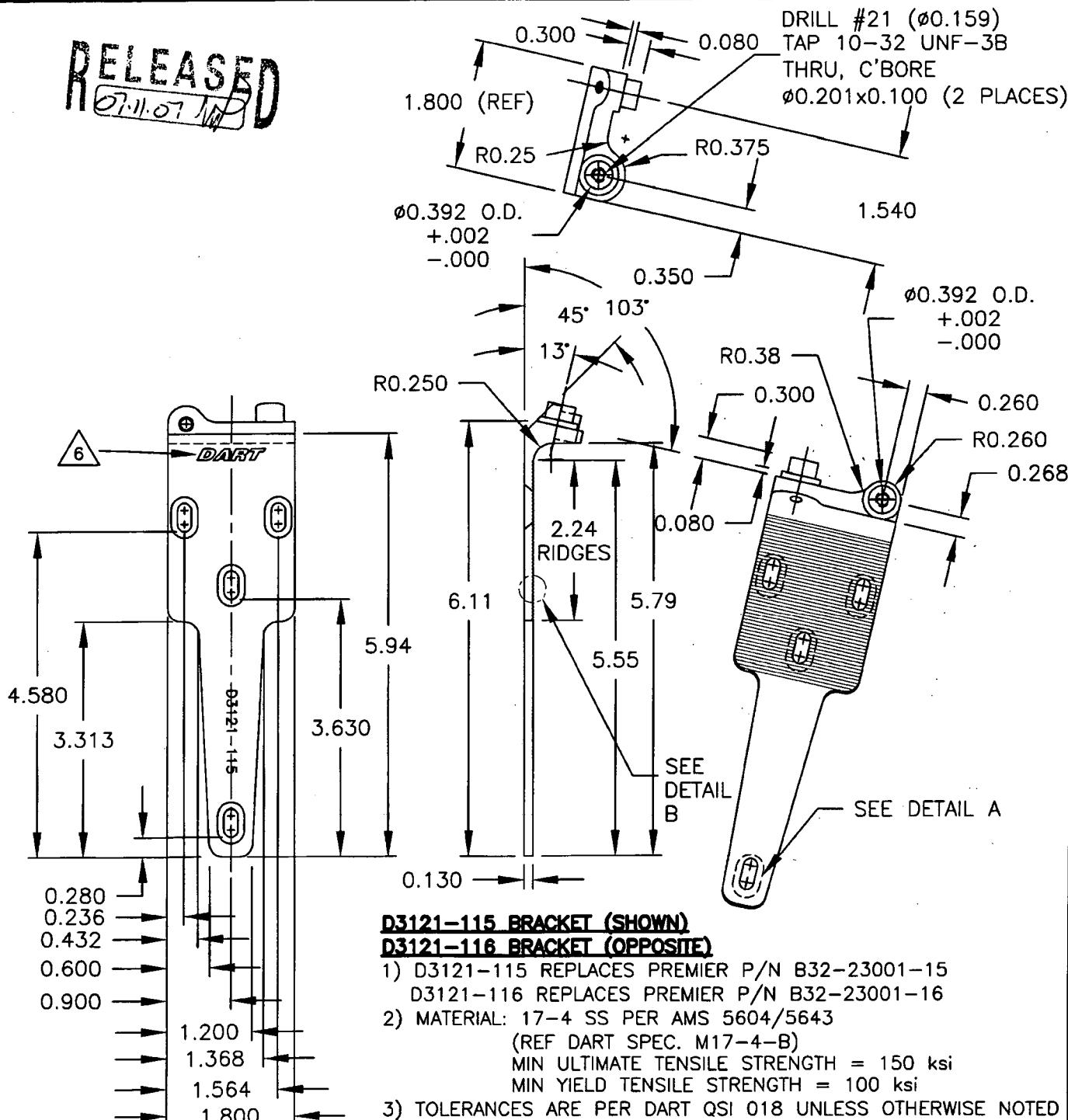
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|--|--|---|-------------------------|
| DESIGN  | DRAWN BY  | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED  | APPROVED  | DRAWING NO. D3121 | REV. E SHEET 9 OF 10 |
| DATE 07.11.07 | TITLE BRACKET ASSEMBLY | | SCALE 1:2 |

RELEASED
07.11.07 100



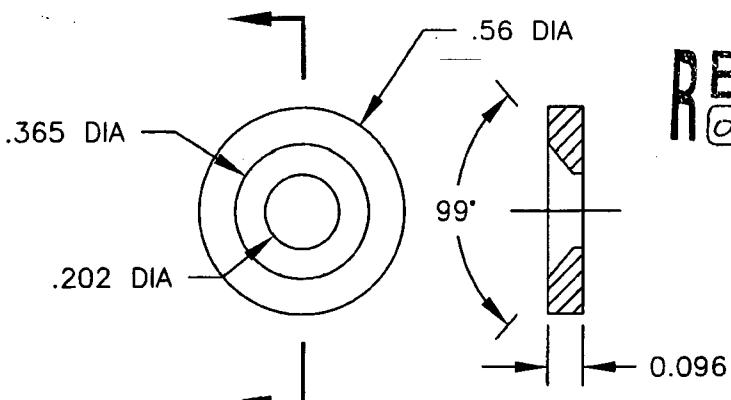
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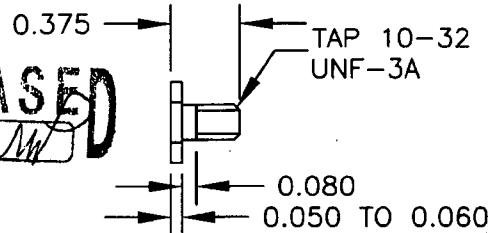
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|----------|------------------|---|----------------|
| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. | REV. E |
| | | D3121 | SHEET 10 OF 10 |
| DATE | TITLE | SCALE | |
| 07.11.07 | BRACKET ASSEMBLY | 1:1 | |

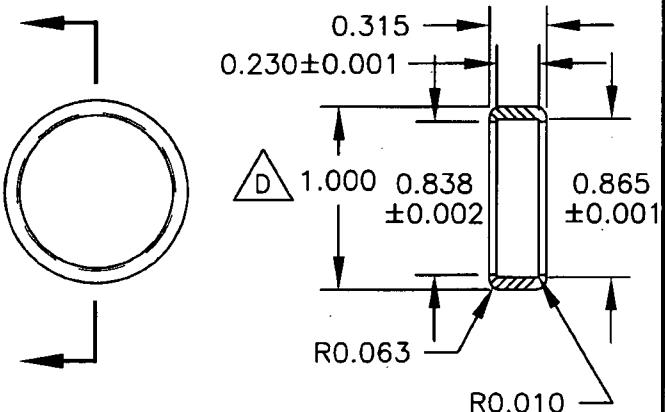
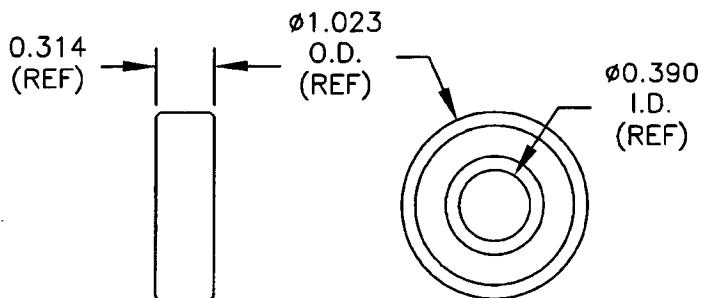


RELEASER
07.11.07 JWD



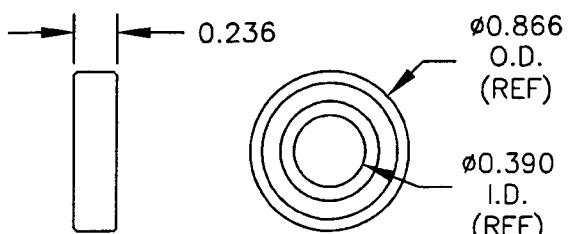
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



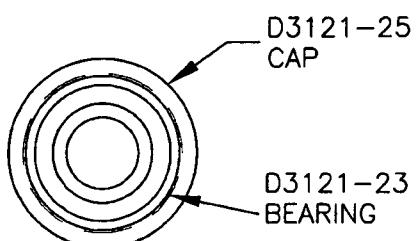
D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-241 BEARING ASSEMBLY (SCALE 1:1)